

AMENDMENTS TO THE CLAIMS

This listing of claims will replace prior versions and listings of claims in the application:

Listing of claims:

Claims 1-13 (cancelled).

14. (currently amended) A purified human nucleic acid sequence ~~encoding an alpha-subunit of a sodium channel comprising a~~ wherein said nucleic acid sequence selected from the group consisting of:
- (a) ~~the nucleic acid sequence comprises a sequence selected from among of~~ SEQ ID NO: 65, ~~which encodes an alpha subunit of a sodium channel;~~ SEQ ID NO: 400, SEQ ID NO: 401, SEQ ID NO: 402, SEQ ID NO: 403, SEQ ID NO: 404, SEQ ID NO: 405, SEQ ID NO: 406 or SEQ ID NOs: 407, or a ~~fragment, functional derivative or allelic variant thereof.~~
 - (b) a complement of (a); and
 - (c) a nucleic acid sequence having at least 95% identity overall to the nucleic acid sequence of (a) or (b).
15. (currently amended) The nucleic acid sequence of claim 14, wherein said alpha subunit comprises a nucleic acid sequence comprising SEQ ID NO: 65, ~~SEQ ID NO: 66, SEQ ID NO: 69, SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 72, SEQ ID NO: 73, SEQ ID NO: 74, SEQ ID NO: 75, SEQ ID NO: 76, SEQ ID NO: 77, SEQ ID NO: 78, SEQ ID NO: 79, SEQ ID NO: 80, SEQ ID NO: 81, SEQ ID NO: 82, SEQ ID NO: 83, SEQ ID NO: 84, SEQ ID NO: 85, SEQ ID NO: 86, SEQ ID NO: 87, SEQ ID NO: 88, SEQ ID NO: 89, SEQ ID NO: 90, SEQ ID NO: 91, SEQ ID NO: 92, SEQ ID NO: 93, SEQ ID NO: 94, SEQ ID NO: 95, SEQ ID NO: 96, SEQ ID NO: 97, or SEQ ID NO: 98, or a~~ fragment, functional derivative or allelic variant thereof, wherein said fragment, functional derivative or allelic variant thereof retains a biological function of an alpha subunit channel of a sodium channel.

16. (currently amended) A purified human nucleic acid sequence encoding an alpha subunit of a sodium channel comprising the complete wherein said nucleic acid encodes an amino acid sequence comprising in SEQ ID NO: 67 or SEQ ID NO: 68, or a fragment, functional derivative or allelic variant thereof, wherein said functional derivative or allelic variant retains a biological function of an alpha subunit channel of a sodium channel.
17. (currently amended) A vector comprising any one of the nucleic acids sequences of claim 14.
18. (currently amended) A vector comprising any one of the nucleic acids sequences of claim 15.
19. (currently amended) A vector comprising any one of the nucleic acids sequences of claim 16.
20. (currently amended) An isolated cell comprising ~~harboring at the~~ vector of claim 17.
21. (currently amended) An isolated cell comprising ~~harboring at the~~ vector of claim 18.
22. (currently amended) An isolated cell comprising ~~harboring at the~~ vector of claim 19.
23. (new) The purified nucleic acid of claim 14, wherein said alpha subunit of a sodium channel possesses a sodium channel function.
24. (new) The purified nucleic acid of claim 14, wherein said alpha subunit of a sodium channel is associated with an increased susceptibility to idiopathic generalized epilepsy.
25. (new) The purified nucleic acid of claim 24, wherein said alpha subunit of a sodium channel comprises the following mutation:

- (a) a mutation at positions 759 to 761 of SEQ ID NO: 65;
 - (b) a mutation at position 3735 of SEQ ID NO: 65; and
 - (c) any combination of (a) and (b).
26. (new) The purified nucleic acid of claim 25, wherein said mutation at positions 759 to 761 is a deletion.
27. (new) The purified nucleic acid of claim 25, wherein said mutation at position 3735 is a substitution of G with A.
- 28 (new) The nucleic acid sequence of claim 14, wherein said nucleic acid sequence comprises one or more sequences selected from the group consisting of SEQ ID NO: 69, SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 72, SEQ ID NO: 73, SEQ ID NO: 74, SEQ ID NO: 75, SEQ ID NO: 76, SEQ ID NO: 77, SEQ ID NO: 78, SEQ ID NO: 79, SEQ ID NO: 80, SEQ ID NO: 81, SEQ ID NO: 82, SEQ ID NO: 83, SEQ ID NO: 84, SEQ ID NO: 85, SEQ ID NO: 86, SEQ ID NO: 87, SEQ ID NO: 88, SEQ ID NO: 89, SEQ ID NO: 90, SEQ ID NO: 91, SEQ ID NO: 92, SEQ ID NO: 93, SEQ ID NO: 94, SEQ ID NO: 95, SEQ ID NO: 96, SEQ ID NO: 97, SEQ ID NO: 98, a fragment, functional derivative or allelic variant thereof, wherein said fragment, functional derivative or allelic variant retains a biological function of an alpha subunit channel of a sodium channel.